REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 11-17 are presently pending in this case, with Claim 11 amended by the present amendment.

In the outstanding Office Action, Claims 11, 12, and 15 were rejected under 35 U.S.C. §102(b) as being anticipated by Turley et al (DE 31 42 591, hereinafter Turley); Claims 13 and 14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Turley in view of Kobayashi (U.S. Patent No. 5, 736,779); Claims 11-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Quigley et al. (U.S. Patent No. 5,708,288, hereinafter Quigley) in view of Shen et al. (U.S. Patent No. 5,356,958, hereinafter Shen).

Claim 11 is amended to recite that the plurality of Zener diodes are connected in series and are disposed so as to be directly polarized. Support for this amendment is found in Applicants' originally filed specification.[1] No new matter is added.

Briefly recapitulating, Claim 11 is directed to a device for protection of an electronic component against electrostatic discharges, comprising a plurality of Zener diodes formed in a semiconducting layer of a substrate, the semiconducting layer covering an insulating layer and having two regions of heavy doped opposite conductivity types with at least one of the two regions extending to the insulating layer. The protection device also includes a contact pin connected to the electronic component and connected through the Zener diodes to ground in order to divert an electrostatic discharge and thereby protect the electronic component. The plurality of Zener diodes is connected in series and is disposed so as to be directly polarized. By embedding a plurality of Zener diodes in a substrate, a sufficient number of

[1] Specification, Figure 4.

Zeners may be compactly arranged in series to resist power supply voltages without inducing excessive leakage.[2]

Turley discloses a circuit that includes a plurality of serially connected Zener diodes arranged in opposing polarity (e.g., diodes 55-59 shown in Figure 5). However, diodes 55-59 shown in Figure 5 are arranged in groups of two with opposing polarity. Turley does not disclose or suggest Applicants' claimed feature of a plurality of Zener diodes connected in series and are disposed so as to be directly polarized. Therefore, Applicants submit that the inventions recited in Claim 11, and all claims depending therefrom, patentably define over the disclosure of Turley.

Kobayashi discloses a semiconductor device with a Zener diode 19 disposed between a gate and a source of a MOS type semiconductor device, where the double Zener diode has the following arrangement: $N^+/P/P^+/P/N^+$. With this arrangement, Zener diode 19 is a double Zener diode having opposing polarity. Thus, like Turley, Kobayashi does not disclose or suggest Applicants' claimed feature of a plurality of Zener diodes connected in series and are disposed so as to be directly polarized.

Quigley discloses a thin film silicon on insulator circuit with four Zener diodes 26, 27, 28, 29 and a low voltage triggering apparatus (LVTA) 36, where the LVTA 36 is a Zener diode formed within the boundaries of surface silicon controlled rectifier 30 and comprises P+ doped Zener region 242, field oxide regions 145, N- doped Zener region 244, and N+ doped Zener region 244.[3] LVTA 36 is a *single* Zener diode formed within the boundaries of surface silicon controlled rectifier 30. As acknowledged in the Official Action, Quigley does not disclose "a *plurality* of Zener diodes formed in a semiconducting layer of a substrate" as recited in Applicants' previously pending or now amended Claim 11. Quigley therefore does

[2] Specification, page 14, lines 1-5 and lines 14-18; Figures 4-6.
[3] Quigley, column 3, lines 2-11; column 4, lines 9-22; Figures 1-3.

not disclose or suggest Applicants' claimed feature of a plurality of Zener diodes connected in series and are disposed so as to be directly polarized.

Shen discloses a semiconductor device that includes a plurality of Zener diodes connected in series (e.g., diodes 18, 21, 22 in Figure 2 and diodes 25 and 29 in Figure 4). However, diodes 18, 21, 22 in Figure 2 and diodes 25 and 29 in Figure 4 are arranged in opposing polarity. Shen does not disclose or suggest Applicants' claimed feature of a plurality of Zener diodes connected in series and are disposed so as to be directly polarized.

As none of the cited prior art, individually or in combination, disclose or suggest all the elements of independent Claim 11, Applicants submit the inventions defined by Claim 11, and all claims depending therefrom, are not rendered obvious by the asserted prior art for at least the reasons stated above.[4]

Furthermore, Applicants submit there is no teaching, suggestion, or motivation, either explicitly or implicitly, in either reference to replace the single LVTA of Quigley with the multiple diodes of Shen to arrive at the inventions recited in Applicants' previously pending Claim 11. Thus, Applicants submit it is only through an impermissible hindsight reconstruction of Applicants' invention that the rejection of Claim 11 in view of Quigley and Shen can be understood.[5]

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[4] MPEP § 2142 "...the prior art reference (or references when combined) must teach or suggest **all** the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

[5] MPEP § 2143.01 "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge of one of ordinary skill in the art."

Accordingly, in view of the present amendment and in light of the previous discussion, it is respectfully submitted that the application is believed in condition for allowance and early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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